

REMARKS

The Office Action of April 21, 2006 has been received and its contents carefully considered.

Summary of the Rejections:

Claims 1-5 have been rejected under 35 U.S.C 103(a) as being unpatentable over US patent 4,979,230 to Marz, claims 13-14 have been rejected under 35 U.S.C 102(e) as being unpatentable over US patent 6,714,776 to Birleson, and claims 20-21 and 24 have been rejected under 35 U.S.C 102(b) as being unpatentable over US patent 5,737,035 to Rotzoll.

Claims 6-12 have been rejected under 35 U.S.C 103(a) as being unpatentable over US patent 4,979,230 (Marz) and US patent 5,737,035 (Rotzoll). Claim 17 has been rejected under 35 U.S.C 103(a) as being unpatentable over Birleson (US 6,714,776). Claim 18 has been rejected under 35 U.S.C 103(a) as being unpatentable over Birleson (US 6,714,776) and US published application 2005/0,054,314 (Dobrovolny). Claim 19 has been rejected under 35 U.S.C 103(a) as being unpatentable over Birleson (US 6,714,776) and US patent 6,879,816 (Bult et al). Claim 15 has been rejected under 35 U.S.C 103(a) as being unpatentable over Birleson (US 6,714,776), Cho (US 6,137,368), and Marz (US 4,979,230). Claim 16 has been rejected under 35 U.S.C 103(a) as being unpatentable over Birleson (US 6,714,776), Cho (US 6,137,368), Marz (US 4,979,230), and Aoyama et al (US 5,517,685). Claim 22 has been rejected under 35 U.S.C 103(a) as being unpatentable over Rotzoll (US 5,737,035), Cho (US 6,137,368), and Marz (US 4,979,230). Claim 23 has been rejected under 35 U.S.C 103(a) as being unpatentable over Rotzoll (US 5,737,035), Cho (US 6,137,368), Marz (US 4,979,230), and Aoyama et al (US 5,517,685). Claim 25 has been rejected under 35 U.S.C 103(a) as being unpatentable over Rotzoll (US 5,737,035) and Dobrovolny (US 2005/0,054,314). Finally, claim 26 has been rejected under 35 U.S.C 103(a) as being unpatentable over Rotzoll (US 5,737,035) and Bult et al (US 6,879,816).

The Rejection of Claims 1 – 12:

Regarding claim 1, the Office Action takes the position that Marz discloses the method for frequency conversion recited in claim 1.

Claim 1 is directed a method for frequency conversion in a receiver, comprising the steps of: receiving a signal having a radio frequency and carrying information on a plurality of channels, selecting one of the channels, converting the signal from the radio frequency to a first variable frequency determined by the selected channel, and converting the signal from the first frequency to a second frequency.

Marz teaches a method converting a TV signal to a fixed intermediate frequency (column 4, lines 17-28, “translation of any selected television channel within the 50-500 MHz band to an intermediate frequency of 2.0 GHz”), whereas claim 1 is directed to a frequency conversion method that converts an RF signal to a variable frequency determined by the selected channel. Marz fails to disclose or suggest a frequency conversion method for converting an RF signal in a channel to a first variable frequency determined by a selected channel. Accordingly, it is respectfully submitted that claim 1 should be allowed.

Claims 2-5 are dependent on claim 1, so they are also allowable.

Claim 6 has been amended to overcome the rejection under 103(a). The amendment is based on page 7 of the present application, lines 17~21: “The second local oscillator 45 and mixer 46 form a second frequency conversion stage converting the signal from the frequency IF1 to a second intermediate frequency IF2 (down-conversion) which is fixed for all the channel.” (emphasis supplied).

The Office Action takes the position that Marz and Rotzoll disclose all of the

limitations in claim 6. However, claim 6 is directed to a method dependent on claim 1, and the method further converts the signal from the second frequency to a third frequency, and the second and the third frequencies are intermediate frequencies.

Rotzoll teaches a method for converting a signal from an intermediate frequency to the baseband frequency. Video detector 426 receives the output of IFAMP 422 (intermediate frequency) and the output of VCLIM 428 to produce a band limited signal at 4.2MHz (column 14, line 64 to column 15, line 30). Audio detector 462 receives the output of IFAMP 422 (intermediate frequency) and a delayed version thereof to produce a baseband signal (column 20, line 65 to column 21, line 15). In contrast, claim 6 now recites converting the second frequency to a third frequency, where both frequency are IF frequencies. Rotzoll fails to teach or suggest converting the second frequency (IF frequency) to a third frequency (IF frequency).

Rotzoll also teaches a method for converting a TV signal to a fixed intermediate frequency (Figure 4, LO1, MIX1, MIX2, and column 8, lines 52-55: "The output of first local oscillator LO1 450 ... is mixed in first mixer (MIX1) 408 with the RF signal to generate a first IF video carrier frequency of 1200MHz"). In comparison to claim 6 9 (considered along with claim 1), Rotzoll fails to teach or suggest a frequency conversion method converting the RF signal in the channel to a first variable frequency determined by a selected channel. Accordingly, it is respectfully submitted that claim 6 is allowable.

Claims 7-12 are dependent on claim 6, and thus are also allowable.

The Rejection of Claims 13 – 19:

Regarding claim 13, the Office Action takes the position that Birleson discloses the receiver recited in claim 13.

Claim 13 is directed to a receiver for frequency conversion, comprising an antenna

receiving an RF signal carrying information on a plurality of channels, a first local oscillator generating a first oscillating signal having a first frequency, a first mixer mixing the RF signal with the first oscillating signal to generate an intermediate signal, a second local oscillator generating a second oscillating signal having a second frequency, and a second mixer mixing the intermediate signal with the second oscillating signal to generate a baseband signal, and wherein a frequency of the intermediate signal is variable and determined by the selected channel.

Birleson fails to teach a receiver that converts a TV signal to a variable intermediate signal. Birleson discloses an intermediate signal that is fixed at 45.75MHz (column 4, lines 65~66: "the output of mixer 108 is 45.75"). Birleson fails to disclose a receiver for converting an RF signal to a variable intermediate signal, so it is respectfully submitted that claim 13 is in condition of allowance.

Regarding claims 14-19, the Office Action takes the position that Birleson in view of Cho (US 6,137,368), and Marz (US 4,979,230), Aoyama et al (US 5,517,685), or Dobrovolny (US 2005/0,054,314) disclose all of the limitations in claim 14-19. However, none of these references discloses converting an RF signal to a variable frequency. It is therefore respectfully submitted that 14-19 are allowable.

The Rejection of Claims 20 – 26:

Regarding claims 20-21, and 24, the Office Action takes the position that Rotzoll (US 5,737,035) anticipated for all limitation thereof. However, based on the reason given above for claims 1-13, it is respectfully submitted that Rotzoll fails to teach or suggest a receiver converting an RF signal to a variable signal, and thus claims 20-21 and 24 should also be in the condition of allowance.

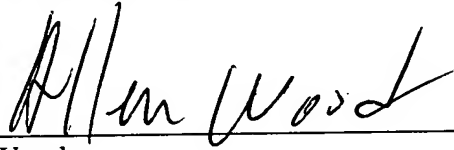
Regarding claims 22-23, 25-26, the Office Action refers Rotzoll in view of Cho (US 6,137,368), Marz (US 4,979,230), Aoyama et al (US 5,517,685), Dobrovolny (US

2005/0,054,314), and Bult et al (US 6,879,816) as disclosing all limitation in claim 14-19. Again, none of the above references discloses converting an RF signal to a variable frequency. Thus claims 22-23, 25-26 are also believed to be allowable.

Conclusion:

For the foregoing reasons, it is respectfully submitted that this application is in condition for allowance. Reconsideration of the application is therefore respectfully requested.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Allen Wood", written over a horizontal line.

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